

REMARKS

Claims 1, 3, 17, and 19 stand rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 6,049,302 to Hinckley, Jr. ("the Hinckley reference"). To reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every limitation is identically disclosed in a single prior art reference. *See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed.Cir. 1991). "The identical invention must be shown in as complete detail as is contained in the claim." M.P.E.P. § 2131.

Amended Claim 1 recites in part "varying the carrier frequency during operation of the radar device," and amended Claim 17 recites in part "a fourth arrangement configured to vary the carrier frequency during operation of the radar device." The Hinckley reference does not disclose these limitations. Instead, the Hinckley reference describes using a carrier wave that is **not varied** during the operation of the radar. Specifically, the Hinckley reference states:

A pulse Doppler radar uses a coherent pulse train, i.e., **a train of pulses that are samples of a single unmodulated sine wave, which is a carrier**. Due to the pulsing of the carrier, the signal has a broad band line spectrum, where the lines are separated by the pulse repetition frequency (PRF). (Hinckley, col. 1., ll. 14-19, *emphasis added*).

Since the Hinckley reference not disclose varying the carrier wave frequency during the operation of the radar, it does not disclose each and every limitation of Claims 1 and 17. Thus, the Hinckley reference does not anticipate amended Claims 1 and 17, as well as their dependent Claims 3 and 19. It is therefore respectfully requested that this rejection be withdrawn.

Claims 4 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Hinckley reference in view of United States Patent No. 4,717,917 to Alitz ("the Alitz reference"). Three basic criteria must be met to establish a *prima facie* case of obviousness. First, the prior art references must teach or suggest all the claim limitations. Second, the references or the knowledge generally available to one of ordinary skill in the art must provide some suggestion or motivation to modify the reference or to combine reference teachings. Third, there must be a reasonable expectation of success. M.P.E.P. § 2143.

As described above the Hinckley reference does not teach or suggest varying the carrier wave frequency during the operation of the radar. The Alitz reference also does not disclose this limitation. Since the Hinckley and Alitz references do not disclose each and

every limitation of Claims 1 and 17, from which Claims 4 and 20 depend, respectively, these references do not render Claims 4 and 20 obvious under 35 U.S.C. 103(a). It is therefore respectfully requested that this rejection be withdrawn.

Claims 2, 5-6, 9-11, 13-14, 18, 21, 24-26 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Hinckley reference in view of United States Patent No. 6,148,020 to Emi ("the Emi reference"). Claims 2, 9-11, 13-14, 18, 24-26, and 28 have been canceled. Claims 1 and 17 have been amended to incorporate limitations from Claims 2 and 18, respectively. Therefore, amended claims 1 and 17 are addressed here in lieu of Claims 2 and 18.

As described above and noted in the Office Action, the Hinckley reference does not disclose varying the carrier frequency during the operation of the radar device. The Office Action asserts that Emi teaches changing a carrier frequency during operation, and that it would have been obvious to include varying the carrier frequency to suppress interference from other devices and reduce false alarms. Applicants respectfully submit that the Emi reference and the Hinckley reference, when viewed as a whole, do not provide any motivation to modify their teachings to arrive at the claimed invention.

*Only*  
The Emi reference relates to "a frequency hopping communication method and device, especially to sequentially changing carrier frequencies of transmitted data according to a frequency hopping spread code list." (Emi, col. 1, ll. 8-11). This method "is applicable to a spread spectrum communication using frequency hopping methods." (Emi, col. 1, ll. 11-13). The Emi reference does not disclose, teach or suggest how such a frequency communication method could be applied to a Doppler radar, much less a Doppler radar in which the carrier frequency is pulsed according to a pulse repetition frequency. Since the Emi reference describes a spread spectrum communication method using frequency hopping and does not relate to radar systems, much less relate to Doppler radar systems, there is no motivation to modify the radar device disclosed in the Hinckley reference by varying the carrier frequency during operation of the radar device. Furthermore, the suggested modification would fundamentally alter the original principle of operation of the combined references, as well as rendering the modified references unsuitable for their original intended purposes, thereby defeating the obviousness conclusion as a matter of law. MPEP § 2143.01.

Since there is no motivation to modify the Hinckley reference with the teachings of the Emi reference, the Hinckley and Emi references do not render amended Claims 1 and 17, as well as their dependent Claims 5-6 and 21, obvious under 35 U.S.C. §103(a). It is therefore respectfully requested that this rejection be withdrawn.

Claims 12 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Hinckley reference in view of the Emi and Alitz reference. Claims 12 and 27 have been canceled. It is therefore respectfully requested that this rejection be withdrawn.

Claims 7-8, 15-16, 22-23 and 29-30 stand rejected as being unpatentable over the Hinckley reference in view of the Emi reference and United States Patent No. 3,979,752 to Charlot ("the Charlot reference"). Claims 15-16 and 29-30 have been canceled and therefore are no longer at issue.

As described above and noted in the Office Action, the Hinckley reference does not disclose varying the carrier frequency during the operation of the radar device. Additionally, as described above, there is no motivation to vary the carrier frequency of a Doppler radar by combining the teachings of Hinckley and Emi to arrive at the invention of Claims 1 and 17 from which Claims 7-8 and 22-23 depend. The Charlot reference also does not teach or suggest any motivation to combine the applied references. Since the Hinckley, Emi and Charlot references do not provide any motivation to combine the applied references to arrive at the invention recited in Claims 1 and 17, these references do not render dependent Claims 7-8 and 22-23 obvious under 35 U.S.C. §103(a). It is therefore respectfully requested that this rejection be withdrawn.

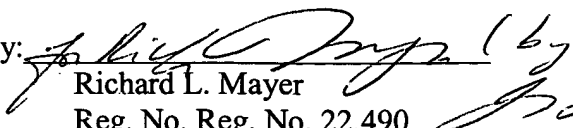
### CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully Submitted,

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**AMENDMENT VERSION WITH MARK-UPS****In the Claims:**

1. (Amended) A method of suppressing interference in a radar device, comprising the steps of:

transmitting signals with a carrier frequency;

transmitting the signals as pulsed signals with a pulse repetition frequency; [and]

varying the pulse repetition frequency during operation of the radar device[.]; and

varying the carrier frequency during operation of the radar device.

5. (Amended) The method according to claim [2]1, wherein the carrier frequency is varied in the carrier frequency varying step by phase modulation.

6. (Amended) The method according to claim [2]1, wherein the carrier frequency is varied in the carrier frequency varying step by frequency modulation.

8. (Amended) The method according to claim [2]1, wherein the carrier frequency is varied in the carrier frequency varying step by a sudden frequency change method.

17. (Amended) A radar device comprising:

a first arrangement configured to transmit signals with a carrier frequency;

a second arrangement configured to pulse the signals with a pulse repetition frequency; [and]

a third arrangement configured to vary the pulse repetition frequency during operation of the radar device[.]; and

a fourth arrangement configured to vary the carrier frequency during operation of the radar device.

21. (Amended) The radar device according to claim [18]17, wherein the fourth arrangement is configured to vary the carrier frequency by phase modulation.

22. (Amended) The radar device according to claim [18]17, wherein the fourth arrangement is configured to vary the carrier frequency by frequency modulation, the radar device further comprising:

a fifth arrangement configured to create a virtual intermediate frequency by mixing a received signal with the modulated carrier frequency; and

a sixth arrangement configured to analyze the received signal at the virtual intermediate frequency.

23. (Amended) The radar device according to claim [18]17, wherein the fourth arrangement is configured to vary the carrier frequency by a sudden frequency change method.